

DETAILED ACTION

1. A phone call was received by Mr. Stanislav Antolin on August 14, 2008, who correctly stated that the Examiner missed a preliminary amendment was filed on 8/18/06 with the filing of the application to correct some of the formal matters that were objected to in the office action of 6/20/08. He asked if the Examiner could send out a new action, to make the record clear. This action follows:

Drawings

2. The drawings are objected to because figure 1 contains empty boxes, please label box 3 as 'voltage source' and box 8 as 'ammeter' so that one of ordinary skill in the art can look at the drawing and understand what everything represents. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet"

pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claims 1-3 and 6-8 are objected to because of the following informalities:

Use of "the pressure cell" in claims 1-3 and 6-8 is being used interchangeably with "cold cathode pressure gauge", please pick either gauge or cell, and use it throughout each claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 3, and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edelmann et al. (US Pub 20060012373) in view of Scheid et al. (4409482).

In regard to claims 1, 3, and 4, Edelmann et al. discloses:

a method/device for measuring ultrahigh vacuum comprising an ultrahigh-vacuum cold cathode pressure gauge (abstract), in that the voltage on the anode of the pressure cell varies with pressure of the ion current flow (paragraph 15 page 2 and also

paragraph 22 page 3), wherein the voltage controlled source is in communication with the anode of the pressure cell (figure 2, anode A of pressure cell MR is connected to source UA) preliminary scans the whole range, and subsequently sets the source to a voltage (paragraph 22 page 3, an alternating voltage would produce a voltage in a range of voltages, and would be maintained at times by the alternating current- paragraph 22) in a relatively short time ("short time" is relative and any time would broadly read on it).

Edelmann et al. lacks specifically wherein the ion current flow is maintained at its maximum value at all times during the measurement.

Scheid et al. discloses wherein in a vacuum system a maximum current is generated at the ion collector and is maintained constant for a given length of time (col 1 line 18-34).

It would have been obvious to one with ordinary skill in the art at the time the invention was made for Edelmann et al. to incorporate keeping the ion flow at its maximum value during the time period for measuring the vacuum pressure as taught by Scheid et al. in order to maintain a correct path of motion of the ions through the measurement for accurate results (col 1 line 20-22).

6. Claims 2 and 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edelmann et al. (US Pub 20060012373) and Scheid et al. (4409482), as applied to claim 3 and 4 above, and further in view of Peacock (4967157) [note claim 2 is rejected

by the three references and not as applied any of the claims above since it is an independent claim] .

In regard to claims 2 and 5-8, Edelmann et al. discloses:

a method/device for measuring ultrahigh vacuum by means of an ultrahigh-vacuum cold cathode pressure gauge (abstract), in that the voltage on the anode of the pressure cell varies with pressure of the ion current flow (paragraph 15 page 2 and also paragraph 22 page 3), wherein the voltage controlled source is connected to the pressure cell (figure 2, pressure cell MR is connected to source UA) preliminary scans the whole range, and subsequently sets the source to a voltage (paragraph 22 page 3, an alternating voltage would produce a voltage in a range of voltages, and would be maintained a times by the alternating current)

Edelmann et al. lacks specifically

(claims 2 and 5) wherein the ion current flow is maintained at its maximum value at all times during the measurement and wherein based on a calibration of the gauge will set the value of the source to one stored as optimal (highest current) and

(claims 6, 7, and 8) wherein the pressure cell is a magnetron pressure cell,

Peacock discloses

[claims 2 and 5] wherein the tube voltage data in a cold cathode discharge vacuum gauge has a calibration voltage and current values with respect to the pressure in the gauge (col 2 line 33-36 and also see col 4 line 54-58) and includes a microprocessor (figure 5 element 28) which can store and show (figure 5, display 32 directly connected to microprocessor 28) the displayed values shown in figures 2 and 3

and [claims 6-8] wherein the cell can be a magnetron pressure cell or Penning pressure gauge cell (col 3 line 46-49).

It would have been obvious to one with ordinary skill in the art at the time the invention was made for Edelmann et al. to include calibrating the Penning or magnetron pressure gauge/cell used for testing as taught by Peacock in order to have and understand the variance between voltage/current and pressure.

Scheid et al. discloses wherein in a vacuum system a maximum current is generated at the ion collector and is maintained constant for a given length of time (col 1 line 18-34).

It would have been obvious to one with ordinary skill in the art at the time the invention was made for Edelmann et al. to incorporate keeping the ion flow at its maximum value during the time period for measuring the vacuum pressure as taught by Scheid et al. in order to maintain a correct path of motion of the ions through the measurement for accurate results (col 1 line 20-22).

7. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edelmann et al. (US Pub 20060012373) and Scheid et al. (4409482), as applied to claims 1 and 4 above, and further in view of Hollman (US Publication 20030042921).

Edelmann et al. as modified lacks specifically stating wherein the voltage range is between 1kV and 12kV.

Hollman discloses an analytical probe station that conveys signals inside a vacuum chamber (paragraph 6 page 1), wherein a range of voltages is controlled within a range of 1.5kV to 20kV (page 29 paragraph 240).

It would have been obvious to one with ordinary skill in the art at the time the invention was made for Edelmann et al. as modified to include a range of voltages as disclosed by Hollman in order to prevent damages to the vacuum and any devices located around/inside the vacuum (page 29 paragraph 240).

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFF NATALINI whose telephone number is (571)272-2266. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez can be reached on 571-272-2245. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jeff Natalini/
Examiner, Art Unit 2831